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EDITORIAL NOTES

GEORGE HERBERT LOCKE

IN the search for the best method of combining the work of the school with that of the work shop so that each will supplement the other, the Baldwin Locomotive Works of Philadelphia has adopted a very interesting and suggestive plan. With the aim of turning out a class of technically skilful mechanics and mechanical engineers the company has set up what looks like an intelligent apprenticeship system, duly safeguarded on the educational side, and which offers to boys and young men a chance to supplement their school training with two, three, or four years' experience in the locomotive works. The first class of boys admitted to the privileges of this training is composed of graduates of our grammar grades who enter for a four years' course. They receive wages from the day of entrance on the scale of 5, 7, 9, and 11 cents an hour, and at the end of their period of service are granted a bonus of \$125. Night school is provided at which attendance is compulsory three evenings a week; the course of study comprises geometry, algebra, drawing, and perspective that the boys may become thoroughly familiar with the technical language used throughout the shops. The work is varied as much as possible so that each lad may be initiated into all the details and mysteries of the craft. There is a true educational significance in that an opportunity is given to each boy to understand the general scope of the works and also to ascertain the division or special branch in which his particular talents will fit him to succeed. The second class is composed of graduates of our high schools, for whom also instruction in technical subjects is provided in the night school. These serve three years at 7, 9, and 11 cents an hour, and receive a bonus at graduation of \$100. They learn a trade just as do the boys of the first class. In the third class are the graduates of technical schools and colleges; their term of service is two years, not as apprentices but as employees, at 13 and 16 cents an hour. This is not a mere theoretical plan, but in harmony with the management of a business concern which employs over nine thousand men; it is thoroughly organized and in excellent working order. The results will be eagerly looked for by persons interested in educational, scientific, and economic progress, and these thousand students constitute what ought to be known as the College of the Baldwin Locomotive Works. This is one of the most interesting educational experiments of the age, and its philosophy is in perfect accord with that of the proprietor of the famous Armstrong works of England, to which reference was made in this journal about a year ago.

MR. GREENWOOD, Superintendent of Schools in Kansas City, read a very interesting paper at the recent meeting of the National Educational Association on "High School Statistical Information," in which he urged the necessity of adopting some sort of uniform method of tabulation in connection with our high schools in various parts of the country. He found that it was very difficult to obtain any accurate information because of the diversity in methods, but he submitted some figures on the cost of maintaining pupils in various high schools which, if not exactly accurate, are certainly very suggestive. The following are his figures in regard to these schools:

COST OF MAINTAINING PUPILS IN HIGH SCHOOLS

I have been only moderately successful in securing data on this subject. Many reports are strangely mute on this topic. With a thoughtful person one of the first questions is what it will cost, and I believe that this is a pertinent inquiry in regard to all school questions. To put it another way, how far can a community afford to tax itself constantly in order to support and maintain an adequate system of public schools. The following will throw some light on the subject in the cities mentioned:

Boston.—Net cost of educating 5766 resident pupils in the Boston normal, Latin, and high schools, \$507,377.81. Average cost of each resident pupil, \$87.99.

Columbus.—High-school enrollment, 2053; cost per pupil per annum on total enrollment, \$40.41; cost on average daily attendance, per pupil, \$49.10.

Cleveland.—Cost \$32.80 based on high-school enrollment and \$39.84 based on average daily attendance.

Cambridge, Mass.—Total enrollment—Latin, 472; English high, 572; manual training, 212. Average daily attendance—Latin, 385; English high, 491; manual training, 183. Cost per pupil on total enrollment—Latin, \$52.45; English high, \$50.89; manual training high, \$101.32.

Chicago.—Total enrollment, 10,241; cost per pupil on total enrollment, \$51.50 total cost on average daily attendance, \$58.62.

Denver.—Total enrollment—high school, 827; manual training, 381. Total cost per pupil on enrollment high school, \$47.17; manual training, \$79.74; total cost on average daily attendance per pupil—high school, \$58.48; manual training, \$96.76.

Detroit.—Total enrollment, 2716; total cost on enrollment, \$45.32; total cost on average daily attendance, \$51.12.

Indianapolis.—Total enrollment, 2058; cost on total enrollment, \$27.45; total cost on average daily attendance, \$38.20.

Louisville, Ky.—Total enrollment, boys' high, 378; manual training, 244; girls' high, 751; colored high, 295. Total cost on enrollment, boys' high, \$60.92; manual training, \$108.84; girls' high, \$42.16; colored high, \$31.87. Total cost on average daily attendance, boys' high, \$69.14; manual training, \$130.12; girls high, \$49.27; colored high, \$40.

Milwaukee.—Total enrollment, 1810; cost per pupil on enrollment, \$43; cost on average daily attendance, \$53.91.

New York.—Total enrollment, 1461; cost on enrollment, \$58.55; on average daily attendance, \$77.61.

New Bedford, Mass.—Total enrollment, 524; total cost on enrollment per pupil, \$49.22; cost on average daily attendance per pupil, \$76.44.

New Orleans.—Total enrollment, 944; total cost per pupil on enrollment, \$40.04; total cost on average daily attendance, \$50.73.

Omaha, Neb.—Total enrollment, 1518; cost per pupil on enrollment, \$36.89; cost on average daily attendance, \$46.98.

Providence, R. I.—Total enrollment, 1857; total cost on enrollment, 70.14; cost per pupil on average attendance, \$86.39.

Rochester, N. Y.—Total enrollment, 1019; total cost on enrollment per pupil, \$41.21; total cost on average daily attendance, \$44.92.

St. Louis, Mo.—Total enrollment—white, 1993; colored, 250; cost on enrollment—white, \$52.42; colored, \$52.54; total cost on average daily attendance—white, \$62.28; colored, \$71.01.

San Francisco.—Total enrollment, 1655; cost per pupil on enrollment, \$89.35; cost on average daily attendance, \$97.

St. Paul, Minn.—Total enrollment, 1741; total cost per pupil on enrollment, \$35.36; cost per pupil on average daily attendance, \$42.23.

Springfield, Mass.—Total enrollment, 657; cost on enrollment is not given; total cost on average daily attendance, \$65.70.

Toledo, O.—Total enrollment, 1261; total cost per pupil on enrollment, \$30.98; total cost on average daily attendance, \$34.42.

Kansas City (1899 and 1900).—Total enrollment, 3464; cost per pupil on enrollment, \$39.06; total cost on average daily attendance, \$49.81; cost per pupil in the Central high school on enrollment, \$34.22; cost on average daily attendance, \$41.70; cost per pupil in manual training on enrollment, \$45.11; cost on average daily attendance, \$58.46.

Some recommendations were made in regard to the necessity of a proper investigation, and it is hoped that the National Council will issue a definite report upon this subject.

ONE of the most interesting characters whom one meets in the work of education is the person who knows "all about the history of education." He has read *Quick* or *Compayré*, or sometimes both, and is looking for something which he can't understand. The historical side of education is classed by him with history in general which he dismisses as easy because he can understand it. He is looking for something difficult of comprehension in which if he takes a course he may feel that he is learned and can express ideas in language that can be barely understood by the persons whom he addresses. Such a man on account of his ignorance of history is all the time making discoveries, finding out things that the Greeks knew well and that Plato and Aristotle described at length. He has no perspective, he is all atmosphere, and is a hindrance to educational progress, besides being a bore to the ordinary, progressive individual. It is this lack of perspective that makes so many men narrow and uninteresting and justifies the assertion made by an eastern professor that as teachers our great lack is of knowledge. The lack of good literature upon educational subjects has been offered as an excuse, and there

is something to be said in its support for there has been a lamentable dearth of authoritative literature written in an interesting style. Much of our knowledge of what other nations were doing in the cause of education was gained from educational tourists, who, in true Cook's tour fashion *did* certain educational centers abroad and gave us in book form their impressions. They saw the system and the schools from the outside; they knew little or nothing of the spirit of the education and wrote as glibly and as dogmatically of schools seen in vacation as of those in regular session. These impressions were given us as facts and are as true as those of the ordinary tourist who makes an ocean trip of our own country, and in book form tells who we are and what we do.

But these days are rapidly passing away, and instead of primers and compilations we are being treated to books by men who know, men who are on the inside of affairs, who are in sympathy with the spirit of the movement and can speak with authority. Such a work is the sixth volume of the *Special Reports on Educational Subjects* issued by the Board of Education of England, in which is fully discussed the place of the preparatory school for boys in secondary education in England. It is one of the most exhaustive and withal interesting treatments of an educational subject that has yet appeared, and reflects great credit upon its editor, Mr. M. E. Sadler, whose task of synthesizing the work of some forty sub-editors has been most successful. The aim of the volume is to furnish a description of the educational service rendered by the preparatory schools to the nation, and to explain the conditions under which the work is carried on. To this end specialists in the various departments of this division of education were asked to prepare lucid and adequate papers and the result is very gratifying. Every paper is interesting and valuable. The subjects treated are: the history of the movement, the numbers and general organization; the masters; the equipment; the time-table of work; the curriculum; the place of the school in secondary education; entrance scholarships at public schools and their influence on preparatory schools; the examinations; the teaching of Latin and Greek, of the mother-tongue, of history, of geography, of modern languages, of mathematics, of natural science, of drawing, of art, of manual training, of music, of singing, and of gardening; health and physical training; games; employment of leisure hours; libraries; a day in a boy's life at school; school management; economics; preparation for the preparatory school; preparatory boys' schools under lady principals; the preparatory department at public schools; relations between public and preparatory schools; the preparatory-school product, from the point of view of four public-school masters; the home training of children; the possibility of co-education in English preparatory schools; appendices, etc. Such is the scope of this book as evidenced by the titles of its chapters.

It may be well to explain to our readers that the preparatory school in England does not correspond in function to what is known as a preparatory

school in this country. We understand by that term a school which prepares a boy to enter college, whereas in England it prepares a boy to enter the great public schools, which correspond in function to our preparatory schools in being the means by which college is entered. When a boy is nine and a half or ten years of age he is sent away from home to a preparatory boarding school, usually in the country. Here he spends three or four years before he goes to the public school chosen for him by his parents, or where he may have been elected to an entrance scholarship. During this time it is perhaps to be expected that he will not gain a very great deal of actual knowledge, for, as one of the essayists says:

It matters after all comparatively little how much actual knowledge a boy has stored up by the time he is thirteen or fourteen, provided that he is physically well developed, well disciplined in character, and sensible in his judgment, and that he has been trained to observe accurately, to express himself clearly, to work steadily, to be plucky, self-effacing, and generous, and to tell the truth.

He then enters the public school, from which he matriculates into the university at about the same age as an American youth, viz., eighteen and a half. Secondary education in England extends, therefore, over nine years of a boy's life, the preparatory school corresponding to the earlier years of the German gymnasium. If one wishes to compare the secondary education afforded by a gymnasium with that of an English secondary school he must include in the program of such a school as Eton, that of a typical preparatory school, or strike off from the gymnasium the work of at least the three lowest classes. This is of course only a rough method of comparison, for it must always be remembered that in the schools of England there are no limitations on the freedom of the head-master or the governing body of an individual school, as is the case in Germany. England, therefore, in secondary education is the best of countries for educational experiment. A difference on the side of the boys may be interesting. The German secondary schoolboy works in one school through the whole period of his secondary education. The English boy, who goes first to a preparatory school and then to a public school, changes his surroundings, intimacies, teachers, way of life and (often) place of residence at the age of thirteen and a half or fourteen, this great educational change coinciding (often most beneficially) with the physical one. The relation between boy and master shows another difference. The German secondary schoolmaster tends to become professorial in his interests and way of life, learned in his subject, and extraordinarily skilful in giving instruction in it. The English secondary schoolmaster, teaching in a school of the corresponding grade, is much more the personal friend of his pupils, much more in sympathy with their out-of-school interests, and, however keen a teacher, almost necessarily much less of a specialist in it, because of the other claims on his energies, thought, and time. Such are some of Mr. Sadler's conclusions. The last difference is easier to understand when one remembers that English schools are boarding schools. Some interesting comparisons may be

made by examining the weekly courses of study of two years in an English preparatory school (the first and the last) with those of corresponding years in a Prussian gymnasium, a Baden gymnasium, and the reform schule of Frankfort. The table appended has been adapted from Mr. Sadler's article.

Weekly course of study for boys aged from about 10 to 11 and also from 12 to 13 (the latter being enclosed in brackets):

SUBJECT.	English Preparatory School.	Prussian Gymnasium.	Baden Gymnasium.	Reform Schule, Frankfort.
Religious knowledge.....	2 [1¾]	3 [2]	2 [2]	3 [2]
Mother tongue (including writing and composition)	5 [¾]	6 [3]	5 [2]	7 [4]
Latin.....	6 [11]	8 [7]	9 [8]	0 [0]
Greek.....	0 [5]	0 [0]	0 [0]	0 [0]
French.....	2 [3]	0 [4]	0 [4]	6 [6]
History and Geography...	4 [2]	2 [4]	2 [4]	2 [5]
Mathematics.....	4 [6]	4 [4]	4 [3]	5 [5]
Nature Study.....	0 [0]	2 [2]	2 [2]	2 [2]
Drawing.....	1 [1]	0 [2]	2 [2]	0 [2]
Total "Hours".....	24 [30½]	25 [28]	26 [27]	25 [26]

There are some three hundred or more of these schools in England, and from those who replied to the circular of the Board of Education, it seems that the head-masters are almost without exception Oxford or Cambridge men, and that about 89 per cent. of the masters are graduates. The figures show also a very liberal proportion of teachers to pupils, there being an average of 8.22 boys per teacher, taking into account resident teachers only.

Some of the most interesting comments are contained in the papers by the public-school masters who receive the preparatory school product, and are, therefore, competent to speak of the result of this training. Mr. Lyttleton says that the greatest defect in the ordinary public-school boy's mind is that he detests the effort of thought which belongs to the surmounting of a difficulty. Sooner than think consecutively or patiently elaborate and thoroughly subdue a difficult sentence, or a mathematical problem, nearly all boys of all ages of boyhood will go through hours of barren, soulless drudgery so long as they can convince themselves that they are covering the ground somehow and doing something praiseworthy. The author goes on to point out how that the Englishman succeeds in many parts of the globe by showing intelligence and zeal, but little method, while the boys in school-work show method and zeal, but little intelligence. It seems that at thirteen years of age a boy is willing to listen to any extent, to write to any amount, and to read anything set him for reproduction, and so his efforts have thus far been mainly mechanical. If,

then, the rational faculties are so much in abeyance that a premature appeal to them may be mischievous or useless, we shall have to consider this in making up our courses of study. Mr. Lyttleton's article is exceedingly thoughtful and suggestive. There are very many other comments which might be reproduced with profit, but in the limits of this article it is impossible. A quotation from Mr. A. C. Benson's paper may fittingly close this running sketch of a great book. Speaking of the preparatory school system, he says:

The qualities employed are sense, vigilance, consideration, care, and sympathy. The results are humanity, health, moral and physical happiness, and industry.